

Acute Coronary Syndromes

TIMING OF ELECTROCARDIOGRAPHIC DIAGNOSIS IN ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION PATIENTS WITH AN INITIAL NON-DIAGNOSTIC ELECTROCARDIOGRAM: AN OBSERVATIONAL ANALYSIS FROM THE NCDR®

ACC Moderated Poster Contributions
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Introduction: Patients ultimately diagnosed with STEMI often have a non-diagnostic initial ECG. However, data to support the timing of follow-up ECGs in patients being evaluated for ACS are lacking. We aimed to describe the timing of ECG diagnosis in STEMI patients with an initial non-diagnostic ECG.

Methods: We identified 41,560 STEMI patients from 432 sites participating in the NCDR ACTION Registry®-GWTG™ from 01/2007 to 12/2010 after excluding transfer-in patients and those with left bundle branch block. 4,566 (11.0%) had an initial non-diagnostic ECG but were diagnosed with STEMI on a follow-up ECG. Time from initial ECG to subsequent diagnostic ECG was determined for this group.

Results: Baseline characteristics and clinical presentations between those diagnosed on initial versus follow-up ECG did not significantly differ. Median time from initial non-diagnostic to follow-up diagnostic ECG was 46.0 minutes (IQR 24.0, 101.0). 33.5% (1,528) of follow-up diagnostic ECGs were within 30 minutes of the initial non-diagnostic ECG, 60.0% (2,740) within 60 minutes, and 72.4% (3,305) within 90 minutes (Figure 1).

Conclusions: 72.4% of STEMI patients with an initial non-diagnostic ECG had a diagnostic ECG within 90 minutes of their initial ECG. These data suggest that serial ECGs every 15-30 minutes within the first 90 minutes of an initial non-diagnostic ECG in patients being worked up for ACS could aid in the timely diagnosis of STEMI.

Figure 1. Time from initial non-diagnostic ECG to subsequent diagnostic ECG

